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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/554,025 | 06/15/2000 | CHRISTOPH DORR | TRW(EHR4846 | 6556 |
| 26294 | 7590 | 10/06/2003 | EXAMINER | |
| TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 526 SUPERIOR AVENUE, SUITE 1111 CLEVEVLAND, OH 44114 | | | | GARCIA, ERNESTO |
| ART UNIT | | PAPER NUMBER | | |
| | | 3679 | | |

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/554,025 | DORR, CHRISTOPH |
| | Examiner | Art Unit |
| | Ernesto Garcia | 3679 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 25 July 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 11,13,14,16-18 and 20-26 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 13 and 24 is/are allowed.

6) Claim(s) 11,14,16-18,25 and 26 is/are rejected.

7) Claim(s) 22 and 23 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 15 June 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

The indicated allowability of claims 16, 17, 20, 21 and 25 is withdrawn in view of the newly discovered reference to Graham et al., 2,424,455. Rejections based on the newly cited reference follow.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the cylindrical center part 4.1 ending in an area of an equator must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Applicant is reminded that the ring as a whole ends in an area of the equator since and an outward edge of the outwardly bend flange 4.2 lies at the equator and not the centered part 4.1.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "4" has been used to designate both a ring without a radially inwardly bent end 4.3 and a ring with the inwardly bent end 4.3. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Graham et al., 2,424,455.

Regarding claim 20, Graham et al., disclose in Figure 1 a ball-and-socket joint comprising a joint pin 15, a bearing shell 13, a joint housing 10, and a metal ring 12. The joint pin 15 has a joint ball 15a. The joint housing 10 has an opening 10c. The ring 12 has a cylindrical portion 12a protruding from the opening 10c and forms a passage receiving the bearing shell 13. An inside diameter of the ring 12 comprises a guide surface (the inside surface of the ring). The ring 12 has a radially inwardly bent end segment 12d.

Regarding claim 21, the ring 12 further includes a radially outwardly extending flange portion 12b. The radially outwardly extending flange portion 12b extends into the joint housing 10 and is embedded in the joint housing 10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 14 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton, 1,260,144, in view of Dorr et al., 5,782,573.

Regarding claim 11, Hamilton discloses in Figures 1 and 3 a ball-and-socket joint having a joint pin 16, a joint housing 10, a bearing shell 14, and a ring 28. The joint pin 16 is provided with a joint ball 20. The bearing shell 14 is inserted into the joint housing 10. The ring 28 has a radially outwardly angled flange (at 30) embedded in the joint housing 10. The metal ring 28 has a radially inwardly bent end segment 28a located in an area of an opening (near 30) in the joint housing 10 that is provide for passage of the joint pin 16. However, the British patent fails to disclose the joint housing 10 being a plastic joint housing or the ring being a metal ring. Applicant is advised that, within the general skill of a worker in the art, selecting a known material on the basis of its suitability for the intended use is a matter of obvious design choice. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the joint housing out of plastic and make the ring from metal. *In re*

Leshin, 125 USPQ 416. Dorr et al. disclose a plastic housing (col. 3, line 12) and a metal ring (col. 2, line 1-3). Applicant is reminded that functional "whereby" statement does not define any structure and accordingly cannot serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

Regarding claim 14, a cylindrical center part (the cylindrical portion of the ring between the inward flange and the outward flange) of the metal ring **28** ends in an area of an equator of the joint ball **16**.

Regarding claim 26, Hamilton, as modified above, discloses the metal ring **28** protruding outwardly of the plastic joint housing **10** such that the radially inwardly bend end segment **28a** is spaced away from the joint housing **10** in the area of the opening (near **30**) of the joint housing **10**. The radially inwardly bent end segment **28a** secures the bearing shell **14** in the joint housing **10**.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton, 3,384,396, in view of Dorr et al., 5,782,573, as applied to claim 11 above, and further in view of Kindel, 3,530,495.

Regarding claim 18, the Hamilton, as modified above, fails to disclose the joint housing **10** provided with a ring groove in the area of the opening (near **30**). Kindel teaches in Figure 1a joint housing **1** provided with a ring groove (unmarked) in an area

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of an opening **1b** to alternatively attach a sealing bellows **5** to the joint housing **1**. Therefore, as taught by Kindel, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place a ring groove in an area of an opening of a housing to alternatively attach a sealing bellows to the housing.

Claims 16, 17 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Pazdirek et al., in view of Graham et al., 2,424,455, and Kindel, 3,530,495.

Regarding claim 25, Pazdirek et al. disclose in Figure 2 a ball-and-socket joint comprising a joint pin **18**, a plastic joint housing **12**, a bearing shell **36**, and a metal ring **26**. The joint pin **18** is provided with a joint ball **22**. The bearing shell **36** is inserted into the joint housing **12**. The ring **26** is embedded in the joint housing **12** and has a radially inwardly bent end segment **32** located in an area of an opening **V** in the joint housing **12** that is provided for passage of the joint pin **18**. However, Pazdirek et al. fail to disclose an inside diameter of a cylindrical center part **28** of the ring **26** corresponds to an outside diameter of the bearing shell **36**; and, the bearing shell **36** includes a pin-side area provided with slits extending up to an area of an equator of the joint ball **22**.

Graham et al. teach in Figure 1 an inside diameter of a cylindrical center part **12a** of a ring **12** corresponds to an outside diameter of a bearing shell **13** to allow the bearing shell **13** to snuggly fit inside the ring **12** (col. 3, lines 39-41).

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Kindel teach in Figure 2 a bearing shell **4** including a pin-side area **9b** provided with slits **8b** extending up to an area of an equator of a joint ball **2a** to facilitate installation and loading of the bearing shell **4** within an opening defined by a surrounding housing **1**.

Therefore, as taught by Graham et al. and Kindel, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the inside diameter of the cylindrical center part **28** of the ring **26** to correspond to the outside diameter of the bearing shell **36** to allow the bearing shell **36** to snuggly fit inside the ring **26**; and, to provide the pin-side area with slits extending up to an the area of the equator of the joint ball **22** to facilitate installation and loading of the bearing shell **36** within the opening **V** defined by the joint housing **12**.

Regarding claim 16, Pazdirek et al., as modified above, discloses the bearing shell **36** also includes a head-side area facing away from the joint pin **18**. However, the head-side area is not provided with indentations extending parallel to a joint axis. Kindel teaches a bearing shell **4** also including indentations **8a** provided on a head-side area **9a** of the bearing shell **4** to allow the bearing shell **4** to be prestressed within the housing (col. 2, lines 25-31). Therefore, as taught by Kindel, it would have been obvious to one of ordinary skill in the art at the time the invention was made to also include the indentation provided on the head-side area of the bearing shell **36** to permit the bearing shell **36** to be prestressed within the joint housing **12**.

Regarding claim 17, Kindel teaches the slits **8b** and the indentations **8a** formed in the bearing shell **4** so as to be mutually offset in a circumferential direction.

Allowable Subject Matter

Claims 13 and 24 are allowed.

Claims 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claim 22, the prior art of record does not disclose or suggest a ball-and-socket joint comprising a radially outwardly extending flange portion of a metal ring extending into the joint housing at a location near an equator of a joint ball of a joint pin;

regarding claim 23, the prior art of record does not disclose or suggest a ball-and-socket joint comprising a ring groove on a joint housing located radially outwardly of a cylindrical portion of the ring; the British patent 1,067,426 teaches a groove located radially outwardly of a cylindrical portion but there's no reason to combine this feature

with the joint housing of Graham et al. because the threaded stem 10a will not permit placement of a groove located radially outwardly of the cylindrical portion of the housing;

regarding claim 24, the prior art of record does not disclose or suggest a ball-and-socket joint comprising a metal ring having a radially outwardly angled flange that is extrusion-coated with material of a joint housing; and,

regarding claim 13, this claim depends from claim 24.

Response to Arguments

In response to applicant's argument of claim 11 that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "a metal ring having a radially outwardly angled flange that is extrusion-coated with material of the joint housing") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 703-308-8606. The examiner can normally be reached from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703-308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.



Lynne H. Browne
Supervisory Patent Examiner
Technology Center 3600

E.G.

September 29, 2003